

① multiply

$$(2x+3)(5x-3)$$

	$2x$	$+3$
$5x$	$10x^2$	$15x$
-3	$-6x$	-9

② Factor

$$\begin{array}{r} 2x^2 + 14x + 20 \\ 1 \cdot 2 \\ 2 \cdot 10 \\ 4 \cdot 5 \end{array}$$

$$(2x+4)(x+5)$$

$$10x^2 + 9x - 9$$

③ Find the maximum (vertex)

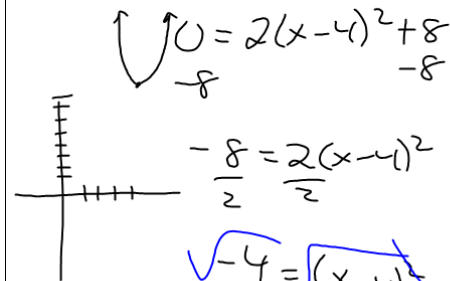
$$y = -2x^2 + 4x - 5$$

$$x = \frac{-b}{2a} = \frac{-4}{2(-2)} = 1$$

④ Solve for x $y = 2(x-4)^2 + 8$

$$y = -2(1)^2 + 4(1) - 5 = -3$$

$$(1, -3)$$



$$-8 = 2(x-4)^2$$

$$\sqrt{-4} = \sqrt{(x-4)^2}$$

No Solution

$$y = 2(x-4)^2 + 8$$

$$\frac{y-8}{2} = \frac{2(x-4)^2}{2}$$

$$\sqrt{\frac{y-8}{2}} = \sqrt{(x-4)^2}$$

$$\sqrt{\frac{y-8}{2}} = x-4$$

$$\sqrt{\frac{y-8}{2}} + 4 = x$$

$$2x^2 + 16x + 30$$

1-2 1-30
 2-15
 3-10
 5-6

$$(2x + 10)(x + \cancel{3})$$

$$(2x + 6)(x + 5)$$

(5c)

$$2x^2 + 10x + 12 = 0$$

1.2

1.12

2.6

3.4

$$(2x + 4)(x + 3) = 0$$

-2 -3

$$(2x + 6)(x + 2) = 0$$

-3 -2

$$2x + 4 = 0$$

-4 -4

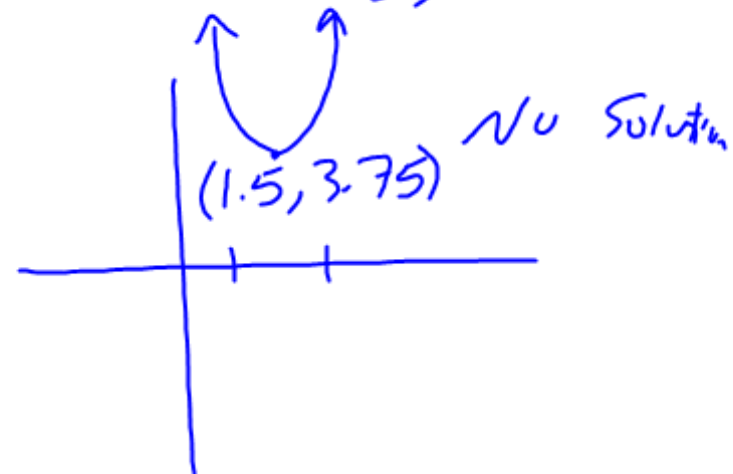
$$\frac{2x}{2} = \frac{-4}{2}$$

$$x = -2$$

$$x^2 - 3x + 6 = 0$$

1.6

2.3



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$$\underline{\underline{2x^2 + 14x + 20}}$$

$$M \quad 2 \cdot 20 = 40$$

$$\begin{array}{r} 1 \cdot 40 \\ 2 \cdot 20 \\ \hline 4 \cdot 10 \\ 5 \cdot 8 \end{array}$$

$$A \quad 4, 10$$

$$R \quad 2x^2 + 4x \quad \left\{ \begin{array}{l} 10x + 20 \\ 10(x + 2) \end{array} \right.$$

$$F \quad 2x(\underline{x+2}) \quad \left\{ \begin{array}{l} 10(x+2) \end{array} \right.$$

$$(x+2)(2x+10)$$